



Bimetal Temperature Switch (OEM Version)

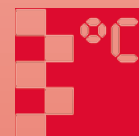


measuring
•
monitoring
•
analysing

TWS



- Easy to install
- Mounting position independent
- Material: Stainless Steel
- Switch Point: -15...+160 °C
- Optional: integrated Temperature Sensors, LED, customised lengths



T1

KOBOLD companies worldwide:

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Description

The KOBOLD temperature switches work with a bimetal switch and serve to monitor temperature of liquids in piping and vessels.

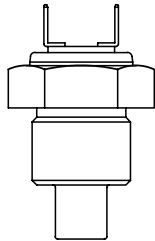
The bimetal temperature switches are designed with stainless steel housing. The mounting in process line is e.g. via threaded sleeves, which are screwed-in or welded in the pipes or vessels.

The temperature contacts have a fixed switch point in intervals of 5 °C in the range -15 °C to +160 °C. They are available as NC or NO contacts. Several electrical connection options are available for customer special applications. Optionally, a control lamp, PT100/PT1000 sensor and a second switch output are available.

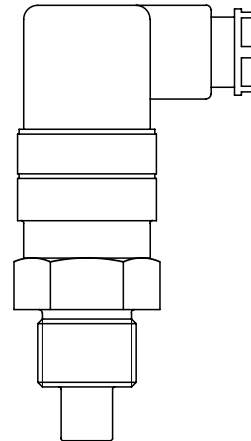
Special features

- Easy to install with thread unit
- Mounting position independent
- Material: Stainless Steel
- Switch Point: -15 ... +160 °C
- Switch capacity up to 16A

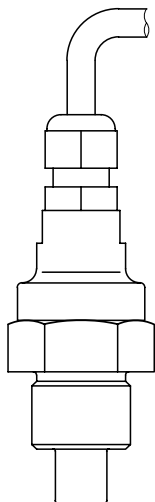
Tab connector



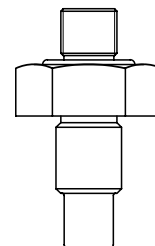
Plug connector acc. to EN 175301-803 (DIN 43650)



Connecting cable with cable fitting



Plug connector M12 x 1





Technical Details

	TWS-F	TWS-D	TWS-K	TWS-V	TWS-M
Model	Tab connector A 6.3-08	Plug connector for cable connection (EN 175301-803 DIN 43650)	Connecting cable with cable fitting	Potted connecting cable	Plug connector M 12x 1
Fitting	Stainless steel				
Electrical contact	A 6.3-08 acc. to DIN 46244	Cable diameter 6 to 8 mm; Connect terminals 1, 2	Cable diameter approx. 6.5 mm connection cross-section 0.75 mm ²		Plug connector M 12x 1
Contact type	Snap-action switch (optional: Slow-action contact with small hysteresis)				Compact snap- action switch
IP grade	IP 52	IP 65		IP 67	
Cable connection	-	For cable connection with diameter 6 to 8 mm	Cable diameter approx. 6.5 mm, 2-cross-section 0.75 mm ² , up to 105 °C		-
Switching capacity for single switch	Max. 250 V _{AC} , cos Ø = 0.9, 10 A 100 000 cycles Max. 250 V _{AC} , cos Ø = 0.9, 16 A 6000 cycles Max. 30 V _{DC} , Max. 5 A With integrated PT100/PT1000, up to max. 48 V _{AC} or 30 V _{DC}				N/C contact max. 48 V _{AC} , cos Ø = 0.95 (0.6), 3.0 (2.5) A 10 000 cycles
Switching capacity for dual switches	-		N/C contact Max. 250 V _{AC} , cos Ø = 0.95 (0.6), 3.0 (2.5) A 10 000 cycles N/O contact Max. 250 V _{AC} , cos Ø = 0.95 (0.6), 2.0 (1.6) A 7000 cycles Max. 24 V _{DC} , 2 A Temperature range: +70... +160 °C increments 5 K		N/O contact max. 48 V _{AC} , cos Ø = 0.95 (0.6), 2.0 (1.6) A 7000 cycles max. 24 V _{DC} , max. 2 A
Switching temperature	-15...+160 °C increments 5 K				+70...+160 °C increments 5 K
Operating pressure (max)	60 bar for insertion length „EL“ ≤ 50 mm 20 bar for insertion length „EL“ > 50 mm				
Tolerance	Switching temperature: up to 130 °C ± 5 K, above 130 °C ± 10 K				
Switching hysteresis	Approx. 15 to 30 K below the switching temperature (Special option: Approx. 3 to 15 K below the switching temperature with slow- action contact.)				Approx. 15 to 45 K below the switching temperature
Ambient temperature	-30...+160 °C	-30...+120 °C	-30...+105 °C		-30...+85 °C
Contact resistance	< 50 mΩ				
Dielectric strength	AC 1500 V/1 min				
Vibration strength EN60068-2-6	10 g with a frequency of 10 to 1000 Hz and an amplitude of ±0.75 mm				
Weight	Approx. 50~150 g				



Bimetal Temperature Switch Model TWS

Order Details TWS (Example: TWS-D1 M4 0401 001)

Model	Contact version	Process connection [T]	Switching temperature	Installation length Process connection Dimension [EL]	Cable length	Option #1	Option #2 [d]
TWS-F = Tab connection DIN 46244	1 = N/C contact 0 = N/O contact	M4 = M14x1.5 G4 = G 1/2 G5 = G 3/4 N4 = NPT 1/2" N5 = NPT 3/4" YY = other option	xxx = -15...+160°C, increments 5 K, (e.g. 040 = 40°C)	1 = 22 mm 2 = 28 mm 3 = 35 mm 9 ¹⁾ = Custom length (max. 1000 mm)	0 = none	0 = none Y = other option	1 = probes diameter d = 10 mm 2 ²⁾ = probes diameter d = 21 mm Y = other option
TWS-D = Plug connector EN 175301-803 DIN 43650						0 = none H ³⁾ = with integrated Pt100 Class B T ³⁾ = with integrated Pt1000 Class B V ⁴⁾ = with LED 24V _{DC} Z ⁴⁾ = with LED 230V _{AC} D ⁵⁾ = 2 x switch outputs (T1/T2) Y = other option	
TWS-K = Connector cable with cable gland TWS-V = Connector cable with potting			1 = 1.0 m PVC cable 105°C 2 = 2.0 m PVC cable 105°C 3 = 3.0 m PVC cable 105°C 9 ²⁾ = Special cable length		0 = none H ³⁾ = with integrated Pt100 Class B T ³⁾ = with integrated Pt1000 Class B D ⁵⁾ = 2 x switch outputs (T1/T2) Y = other option		
TWS-M = Round plug M 12 x 1			xxx = +70...+160°C, increments 5 K (e.g. 130 = 130°C)		0 = none	0 = none H ³⁾ = with integrated Pt100 Class B T ³⁾ = with integrated Pt1000 Class B D ⁵⁾ = 2 x switch outputs (T1/T2) Y = other option	

¹⁾ Standard for process connection code "G5". Please specify length in clear text.

²⁾ Please specify special cable length in clear text.

³⁾ Class A on request

⁴⁾ Only possible with model TWS-D

⁵⁾ Second switch output (T2): Please specify "Contact version" and "Switching temperature" in clear text; only possible with option #2 code "2!"

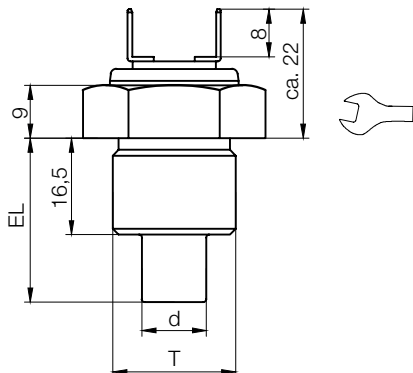
⁶⁾ Standard for option #1 code "D", double switch outputs

Note: Minimum order quantity per order (PO): 50 pieces (minimum 10 pcs. for each model code)

Dimensions [mm]

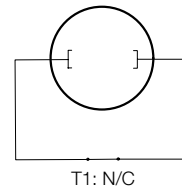
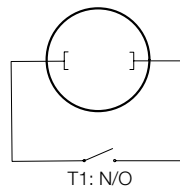
TWS-F

Tab connector A 6.3-08



Model TWS-F

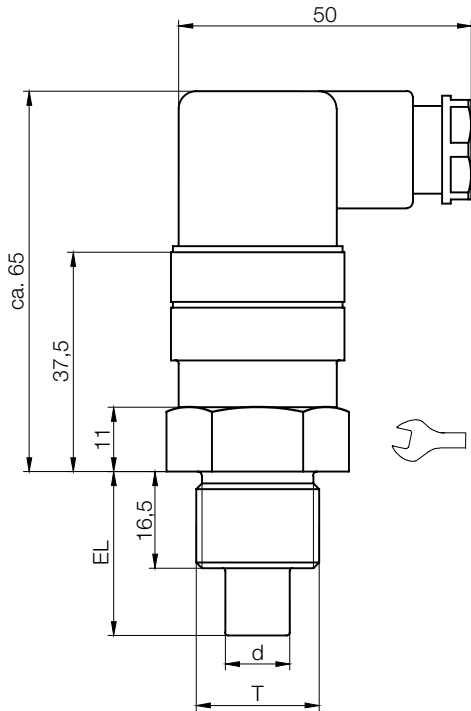
Item	EL	d	T	
1	22/28/35	Ø10	M14x1.5	24
2	22/28/35	Ø10	G 1/2" / NPT 1/2"	27
3	22/28/35	Ø21	G 3/4" / NPT 3/4"	30



Dimensions [mm] (cont'd)

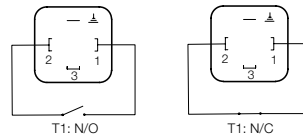
TWS-D

Plug connector for cable connection EN 175301-803

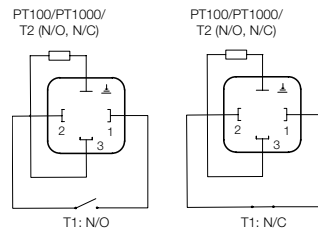


Model TWS-D

Item	EL	d	T	
1	22/28/35	Ø10	M14x1.5	27
2	22/28/35	Ø10	G 1/2" / NPT 1/2"	27
3	22/28/35	Ø21	G 3/4" / NPT 3/4"	30



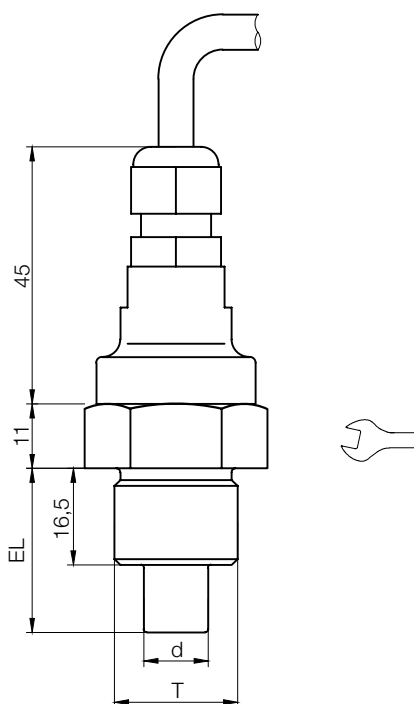
Only with one switch T1



Option to have one of
 1. PT100
 2. PT1000
 3. T2 switch, NO or NC

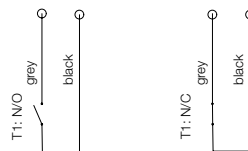
TWS-K

Connecting cable with cable fitting

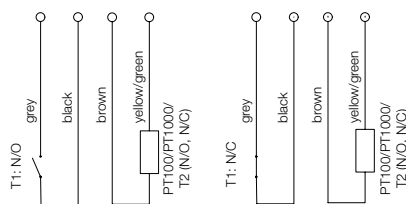


Model TWS-K

Item	EL	d	T	
1	22/28/35	Ø10	M14x1.5	27
2	22/28/35	Ø10	G 1/2" / NPT 1/2"	27
3	22/28/35	Ø21	G 3/4" / NPT 3/4"	30



Only with one switch T1

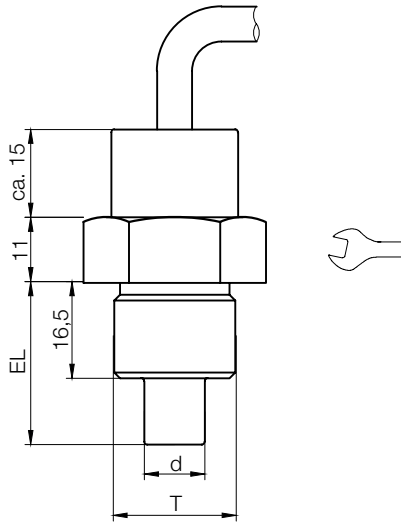


Option to have one of
 1. PT100
 2. PT1000
 3. T2 switch, NO or NC

Dimensions [mm] (cont'd)

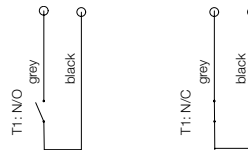
TWS-V

Potted connecting cable

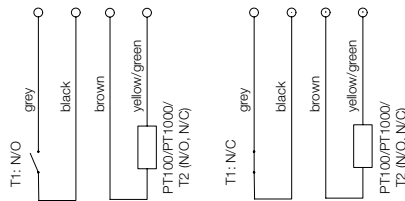


Model TWS-V

Item	EL	d	T	
1	22/28/35	Ø10	M14x1.5	24
2	22/28/35	Ø10	G ½ / NPT ½"	27
3	22/28/35	Ø21	G ¾ / NPT ¾"	30



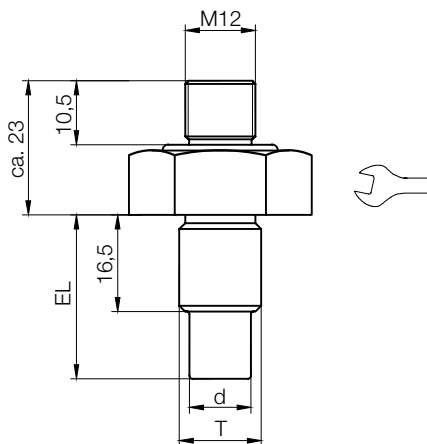
Only with one switch T1



Option to have one of
 1. PT100
 2. PT1000
 3. T2 switch, NO or NC

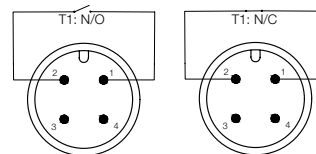
TWS-M

Plug connector M 12 x 1

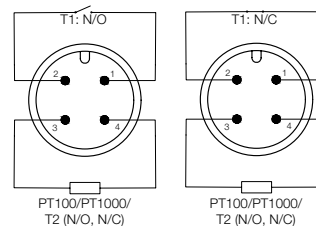


Model TWS-M

Item	EL	d	T	
1	22/28/35	Ø10	M14x1.5	24
2	22/28/35	Ø10	G ½ / NPT ½"	27
3	22/28/35	Ø21	G ¾ / NPT ¾"	30



Only with one switch T1



Option to have one of
 1. PT100
 2. PT1000
 3. T2 switch, NO or NC